a. selecting an oligonucleotide having a sequence from a RNA operon, wherein the sequence differs by one or more bases from at least one of the operons from the two or more species being discriminated, and wherein the oligonucleotide discriminates between species after hybridization by the use of two or more wash temperatures, at least one of which is above the oligonucleotide's calculated or experimentally determined T_m;

b. hybridizing the oligonucleotide to nucleic acid from the sample; and

c. determining the presence or absence of hybridizing nucleic acid.

20. (Amended) The method of claim 19, wherein an oligonucleotide consisting essentially of SEQ ID NO: 1 is used to discriminate between or among Shigella and Escherichia.

21. (Amended) The method of claim 19, wherein an oligonucleotide consisting essentially of SEQ ID NO: 2 is used to discriminate between or among Shigella and Escherichia.

22. (Amended) The method of claim 19, wherein an oligonucleotide consisting essentially of SEQ ID NO: 3 is used to discriminate between or among Shigella and Escherichia.

23. (Amended) The method of claim 19, wherein an oligonucleotide consisting essentially of SEQ ID NO: 4 is used to discriminate between or among Shigella and Escherichia.

24. (Amended) The method of claim 19, wherein an oligonucleotide of RNA is used, wherein the oligonucleotide sequence consists essentially of a sequence selected from the group consisting of SEQ ID NOs: 1, 2, 3 and 4, and wherein U substitutes for T.

25. (Amended) A nucleic acid probe consisting essentially of the sequence of SEQ ID NO: 1, 2 or 3, which distinguishes between species of Shigella in a hybridization assay, or distinguishes between Shigella and E. coli in a hybridization assay.

Please add the following claims:

26. A method for discriminating between species of Shigella and E. coli or for discriminating among species of Shigella and E. coli in a sample containing organisms of one or more taxonomic groups comprising:

a. selecting an oligonucleotide having a sequence from a RNA operon, wherein the sequence differs by one or more bases from at least one of the operons from the two or more species being discriminated, and wherein the oligonucleotide discriminates between species after hybridization by the use of two or more wash temperatures at or above the oligonucleotide's calculated or experimentally determined T_m;

b. hybridizing the oligonucleotide to nucleic acid from the sample; and

c. determining the presence or absence of hybridizing nucleic acid,

wherein said oligonucleotide consists of a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3 and SEQ ID NO: 4.

27. The method of claim 26, wherein an oligonucleotide consisting of SEQ ID NO: 1 is used to discriminate between or among Shigella and Escherichia.

28. The method of claim 26, wherein an oligonucleotide consisting of SEQ ID NO: 2 is used to discriminate between or among Shigella and Escherichia.

29. The method of claim 26, wherein an oligonucleotide consisting of SEQ ID NO: 3 is used to discriminate between or among Shigella and Escherichia.

30. The method of claim 26, wherein an oligonucleotide consisting of SEQ ID NO: 4 is used to discriminate between or among Shigella and Escherichia.

31. The method of claim 26, wherein an oligonucleotide of RNA is used, wherein the oligonucleotide sequence consists of a sequence selected from the group consisting of SEQ ID

NOs: 1, 2, 3 or 4, and wherein U substitutes for T.

32. The method of claim 19, wherein an oligonucleotide consisting of SEQ ID NO: 1 is used to discriminate between or among Shigella and Escherichia.

33. The method of claim 19, wherein an oligonucleotide consisting of SEQ ID NO: 2 is used to discriminate between or among Shigella and Escherichia.

34. The method of claim 19, wherein an oligonucleotide consisting of SEQ ID NO: 3 is used to discriminate between or among Shigella and Escherichia.

35. The method of claim 19, wherein an oligonucleotide consisting of SEQ ID NO: 4 is used to discriminate between or among Shigella and Escherichia.

36. The nucleic acid probe of claim 25, which consists essentially of the sequence of SEQ ID NO: 1.

37. The nucleic acid probe of claim 25, which consists of the sequence of SEQ ID NO: 1.

38. The nucleic acid probe of claim 25, which consists essentially of the sequence of SEQ ID NO: 2.

39. The nucleic acid probe of claim 25, which consists of the sequence of SEQ ID NO: 2.

40. The nucleic acid probe of claim 25, which consists essentially of the sequence of SEQ ID NO: 3.

41. The nucleic acid probe of claim 25, which consists of the sequence of SEQ ID NO: 3.

42. A kit, comprising 3 probes, which are a probe which consists essentially of the sequence of SEQ ID NO: 1, a probe which consists essentially of the sequence of SEQ ID NO: 2, and a probe which consists essentially of the sequence of SEQ ID NO: 3.

43. A kit, comprising 3 probes, which are a probe which consists of the sequence of SEQ ID NO: 1, a probe which consists of the sequence of SEQ ID NO: 2, and a probe which consists of the sequence of SEQ ID NO: 3.

44. The kit of claim 42, further comprising a probe which consists essentially of the sequence of SEQ ID NO: 4.

45. The kit of claim 43, further comprising a probe which consists essentially of the sequence of SEQ ID NO: 4.